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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,169	02/01/2001	Thomas Henry Tichy	CTS-2157	7279

7590                      08/24/2004  
 Mark W. Borgman  
 CTS Corporation  
 905 West Boulevard North  
 Elkhart, IN 46514

EXAMINER

NELSON, ALECIA DIANE

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/775,169

Applicant(s)

TICHY ET AL.

Examiner

Alecia D. Nelson

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 22 July 2004.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-4,6,7 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-4,6,7,110-15 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a)  All    b)  Some \*    c)  None of:
- Certified copies of the priority documents have been received.
  - Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. **Claim 10** is objected to because of the following informalities: the claim is dependent upon a canceled claim. For purposes of rejection on the merits of the claims, the claim will be dependent from independent **claim 7**. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. **Claim 1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites deactivating the operation of the cursor control apparatus in response to sensing an input signal, and further states that the suppression circuit generates a suppression signal that deactivates the cursor control apparatus. The claim is indefinite because it fails to particularly point out and distinctly claim the deactivation of the operation of the cursor control apparatus. It is not clear as to if it is the deactivating the operation of the cursor control apparatus is done in response to the sensing of an input signal, or if it is the suppression signal generated by the suppression circuit that deactivates the cursor control apparatus. Claims 2-4 and 6

are rejected for being dependent on a rejected base claims. The claims will be rejected on the merits as best understood by the examiner.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. ***Claims 1-4, 6, 7, and 10-15*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (U.S. Patent Application Publication No. 2002/0003528) in view of Barber et al. (U.S. Patent No. 5,973,670).

With reference to **claims 1 and 7**, Rosenberg et al. teaches a cursor control system (12) comprising a cursor control apparatus (62) for receiving user inputs and

providing signals indicative of the user input (see paragraphs 57-58); a tactile feedback apparatus (64); providing a driver circuit (interface (138) provides forces signals from the microprocessor to drive the actuators) coupled to the tactile feedback apparatus (64) (see paragraph 83); a cursor suppression system (local microprocessor, 130) coupled to the driver circuit and the cursor control apparatus (see paragraphs 72, 107); the cursor suppression system sensing input signals (force commands over bus 120) and deactivating the cursor control apparatus (disturbance filtering) during the activation of the tactile feedback apparatus, such that the sensing of the user inputs is prevented during the operation of the tactile feedback apparatus (see paragraph 122); starting the tactile feedback apparatus; stopping the tactile feedback apparatus; and allowing the operation of the cursor control apparatus (see paragraph 102).

While specifically not disclosing that the coupling of the cursor control apparatus and the tactile feedback apparatus as disclosed in the claims Rosenberg et al. teaches that the cursor control apparatus and the tactile feedback apparatus are coupled with one another in the mechanical apparatus (104), and also teaches that the cursor control apparatus and tactile feedback apparatus can be included together as a sensor/actuator pair transducer (see paragraph 83), thereby suggest the capability of coupling the two components. Rosenberg fails to teach the usage of a piezoelectric device for providing the tactile feedback, however does teach that it is possible to use other types of actuators (see paragraph 60).

Barber et al. teaches a cursor controller including a tactile generator, wherein the generator is activated when the cursor is located at a graphics object (see abstract).

There is further taught the usage of a relay (42) or a piezoelectric element (52) used for generating a tactile signal (see column 4, lines 35-61).

Therefore it would have been obvious for one having ordinary skill in the art at the time of the invention to allow the usage of a piezoelectric device to be used as the tactile feedback apparatus, in order for the device to generate tactile feedback, as taught by Barber et al. in a device similar to that which is taught by Rosenberg et al. including a tactile feedback apparatus to provide feedback to a user object when the user is navigating through a graphical environment

With reference to **claims 2-4**, Rosenberg et al. teaches activating the tactile feedback apparatus in response to predefined user inputs from the cursor control apparatus, wherein the predefined user inputs is placement of the cursor over an active area graphical objects on the display device (20) (see paragraph 47).

With reference to **claims 6 and 10**, while Barber teaches that the piezo-electric tactile feedback apparatus is activated by an ac signal, neither Rosenberg et al. nor Barber et al. teach the range of the a.c. signal used to activate the piezoelectric device, however it would be inherent to have an a.c. signal in a range sufficient enough to activate the device.

Therefore it would have been obvious for one having ordinary skill in the art at the time of the invention to allow the usage of a piezoelectric device to be used as the tactile feedback apparatus, wherein the piezoelectric device is to be activated by a

sufficient a.c. signal in order for the device to generate tactile feedback, as taught by Barber et al. in a device similar to that which is taught by Rosenberg et al. including a tactile feedback apparatus to provide feedback to a user object when the user is navigating through a graphical environment.

With reference to **claims 11 and 13-15**, Rosenberg et al. teaches that the "disturbance filtering" allows the suppression circuit (microprocessor (130) which would store a set of machine-readable instructions) to filter oscillations and other disturbances out of position data before reporting it to the host computer. This reduces or eliminates force-feedback-induced disturbances in cursor position that occur as a result of certain force sensations, such as vibrations (see paragraph 122).

With reference to **claim 12**, Rosenberg et al. teaches the usage of "clipped" forces, which allows movement of the mouse while refraining to detect cursor position (see paragraph 121, 127). It is also taught that it is possible to overlay multiple feedback forces (see paragraph 158). Thereby allowing suppression of unwanted vibration when applying the feedback and clipping cursor movement during the feedback operation



**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703) 305-0143. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on (703) 305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



adn/ADN  
August 20, 2004